

**Annual Report of Accomplishments and Outcomes, July 2010 – June 2011 – *Fundamental***  
Michigan State University/Michigan Dept of Community Health (MDCH) /Michigan Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance  
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The primary activities of the Michigan Fundamental program are:

- Annually collect data for occupational health indicators (OHIs)
- Conduct case based surveillance for work-related amputations, burns, selected metals, and carbon monoxide poisoning.
- Maintain and improve surveillance infrastructure and data systems to support surveillance systems.

## **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

### **1. Occupational Health Indicators**

Michigan's OHI data for 2007 were compiled and submitted to CSTE. We began calculating OHI data for 2008.

The OHI "How to Guide" for #10, #12 and Employment Demographics Indicators were updated

MDCH staff continued to co-lead the Quality Assurance process for all states' submissions of OHI data to CSTE, and trained the NIOSH personnel, who are assuming responsibility for this task in 2011.

MDCH staff led a discussion group session at the annual CSTE meeting in Pittsburgh June 2011 on issues associated with in-depth analysis of OHIs.

### **2. Surveillance for work-related amputations, burns, metals, and carbon monoxide poisoning**

- **Case Ascertainment – number of reports received/confirmed July 2010-June 2011:**
  - There were 1,570 amputation reports received, of which 518 were confirmed as work-related.
  - There were 2,905 burn reports received, of which 1,713 were confirmed work-related.
  - There were 5,396 arsenic, 6,667 mercury, and 3,620 cadmium metals reports received, of which 106 were above the surveillance action levels
  - There were 1,203 carbon monoxide reports received, of which 104 were confirmed as work-related.
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- **Investigations**
  - Amputation investigations were completed at four facilities. The median number of violations was 2.5 and the median assessed fines were \$150.
  - Burn investigations were completed at two facilities. One facility received recommendations the other 11 citations with \$ 405 in penalties.
  - Carbon monoxide investigations were completed at three facilities; two were retail trade facilities, one was chemical manufacturing. Two citations were issued.

### **3. Surveillance infrastructure**

We continued to maintain the web-based occupational disease (OD) reporting system and the availability of the toll free number for phone reporting. We continued to receive reports through the automated occupational disease reporting system which has been developed for the electronic medical record.

We continued to promote and remind health care providers of the reporting requirement through our quarterly newsletter, "Project SENSOR News," which has a mailing list of approximately 3,000 of which approximately 75% are physicians.

We continued to promote and remind health care providers of reporting requirement by having a display booth at four meetings and presenting at two meetings of medical professional organizations and other venues attended by health care providers.

All new physicians in the state have continued to receive a letter about the occupational disease reporting law and a copy of the reporting form as part of the packet they receive when they apply for a Michigan License at the Bureau of Health Professions.

New rules for reporting of injuries were promulgated in September 2010. They have been used in the amputation and the new burn surveillance system.

Several meetings were held with the MDCH program that manages the Michigan Emergency Medical Services Information System (MI-EMSIS), in order to explore opportunities to use the data for occupational health surveillance. A plan to gain access was developed, to take place once more EMS agencies are participating in the system (as of May 2011, 69% of all agencies were submitting data to MDCH).

Twitter and Facebook began to be used to disseminate materials.

We accessed the national Poison Control Center (PCC) "National Poison Data System"; approximately 2 reports were received daily. The PCC was also used to track reports of individuals injured as a result of exposure to oil from a large oil spill in Michigan in July 2010, including 24 oil-spill response workers.

We continue to be active in multi-state collaborations to promote occupational health surveillance. Dr. Rosenman continues to co-chair the Occupational Health Surveillance Workgroup of the Council of State and Territorial Epidemiologists. This group met in November in Austin TX, in March in Washington DC, and at the annual CSTE meeting in June 2011. The March meeting was held in conjunction with a meeting with OSHA to discuss strategies for collaboration between OSHA and state-based occupational health surveillance programs. Martha Stanbury, MDCH staff, continued to serve on the Executive Board of the Council of State and Territorial Epidemiologists as Environmental/Occupational/Injury Chair. Tom Largo, MDCH, continued to be a lead in the CSTE process for collecting and publishing OHIs, as noted above. Abby Schwartz, MDCH pesticides coordinator, continues to chair the "SENSOR-pesticides coding committee", which coordinates multi-state issues for the expanded pesticides program.

### **3. Materials Development, Publications, Presentations and Other Outreach**

1. The 13<sup>th</sup> annual report of occupational diseases. February 2011. Available at: <http://www.oem.msu.edu/userfiles/file/Annual%20Reports/OD/09ODAnnRpt.pdf>.
2. The 3rd Annual Report of work-related amputations (2008 data). January 2011. Available at <http://www.oem.msu.edu/userfiles/file/Annual%20Reports/Amputations/2008%20MI%20work-related%20amputations.pdf>
3. Bonauto DK, Fan JZ, **Largo TW**, **Rosenman KD**, Green MK, Walters JK, Materna BL, Flattery

- J; St. Louis T, Yu L, Fang S, Davis LK, Valiante DJ, Cummings KR, Hellsten JJ, Prosperie SL. Proportion of Workers Who Were Work-Injured and Payment by Workers' Compensation Systems --- 10 States, 2007. *MMWR* 2010; 59:897-900.
4. A report on occupational health disparities in Michigan was prepared, disseminated, posted on the MDCH website, and presented at the spring 2010 meeting of the CSTE Occupational Health Surveillance Workgroup.  
[http://www.michigan.gov/documents/mdch/occupational\\_disparities\\_2\\_9\\_2011\\_final\\_\\_345408\\_7.pdf](http://www.michigan.gov/documents/mdch/occupational_disparities_2_9_2011_final__345408_7.pdf)
  5. Occupational/Environmental Lung Diseases Update. 13th Annual Clinical Chest Conference. Wm. Beaumont Hospital, Royal Oak, September 15, 2010.
  6. Update on Occupational Disease Surveillance in Michigan. 2010 Michigan Occupational and Environmental Medicine Association Conference, Port Huron, October 1, 2010.
  7. The following issues of *Project Sensor News* were written and distributed to approximately 3,000 health professionals (available at [www.oem.msu.edu](http://www.oem.msu.edu)):
    - a. Summer 2010, "COPD and Work."
    - b. Fall 2010, "Asthma and Welding."
    - c. Winter 2010-2011, "Irritative Vocal Cord Dysfunction."
    - d. Spring 2011, "Hypersensitivity Pneumonitis: Identifying the Causal Agent."
    - e. Summer 2011, "New Causes of Occupational Asthma Reported in 2010."

#### **4. PLANS FOR THE NEXT YEAR**

##### **Plans for next year**

Specific activities of high priority for completion, beyond current on-going activity, include:

- Updating the Michigan indicator site with the most currently available OHIs.
- Ensuring the completion of the transition from states' (Michigan and Massachusetts) responsibility for QA for the CSTE OHIs to NIOSH, providing technical assistance to NIOSH as needed.
- Obtaining access to the data collected in the MI-EMSIS for individuals with work-related injuries and illnesses.
- Supporting the MDCH asthma program's efforts to make asthma a reportable condition by hospital emergency departments.
- Participating in MDCH's initiative to encourage hospital EDs to develop a comprehensive ED data system similar to the hospital discharge data system that has been maintained by the Michigan Hospital Association for many years.
- Implementation of recommendations in the MDCH/MSU Work-related health disparities report.
- Implementation of surveillance for traumatic skull fractures and publication of the first annual reports for carbon monoxide and work-related burns surveillance.

## **Annual Report of Accomplishments and Outcomes, July 2010 – June 2011 – *Work-Related Asthma***

Michigan State University/Michigan Dept of Community Health/Michigan Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance  
Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu  
Coordinator – Mary Jo Reilly, (517)353-4979 maryjo.reilly@hc.msu.edu

The primary activities of the Michigan Work-Related Asthma program are:

- Conducting surveillance for work-related asthma.
- Conducting prevention activity through workplace investigations and the development and dissemination of educational material.

## **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

### **Case Ascertainment**

There were 187 reports received, with 164 confirmed.

### **Investigations**

There were 10 Michigan OSHA inspections completed. The type of facilities inspected and the exposures were: auto parts packager - foam isocyanate bags; cement manufacturer- kiln room exposure; school - cleaners and disinfectants; printing - acids in mixing area; hospital- disinfectants; recycler of auto parts - cleaning chemicals; plastic compounding – plastic extrusion and mixing exposures; auto parts manufacturer – welding fume; auto parts manufacturer – shot blast and furnace areas; truck rental – isocyanates in painting trucks. Ninety-two co-workers were administered a respiratory health assessment questionnaire during the 10 MIOSHA inspections.

### **Materials Development, Publications, Presentations and Other Outreach**

1. 2009 Annual Report on WRA in Michigan. Summarizes the agents, occupations and industries of the confirmed, work-related asthma cases: [www.oem.msu.edu](http://www.oem.msu.edu).
2. Occupational/Environmental Lung Diseases Update. 13th Annual Clinical Chest Conference. Wm. Beaumont Hospital, Royal Oak, September 15, 2010.
3. Update on Occupational Disease Surveillance in Michigan. 2010 Michigan Occupational and Environmental Medicine Association Conference, Port Huron, October 1, 2010.
4. Work-Related Asthma: An Overlooked Asthma Trigger. Ohio Asthma Coalition Education and Research Conference, Columbus, OH, October 8, 2010.
5. Work-Related Asthma: An Overlooked Asthma Trigger. Michigan State Medical Society 145th Annual Scientific Sessions, Troy, October 22, 2010.
6. Welding and Asthma. Annual Work-Related Asthma Meeting, Oakland, CA, March 22-23, 2011.
7. State Highlights. Annual Work-Related Asthma Meeting, Oakland, CA, March 22-23, 2011.
8. A 2-page summary sheet was developed to highlight key elements of the Work-Related Asthma Surveillance Program in MI: Tracking Work-Related Asthma in MI (October 15, 2010).
9. The following issues of *P.S. News* were written and distributed to approximately 3,000 health professionals (available at [www.oem.msu.edu](http://www.oem.msu.edu)):
  - a. Summer 2010, "COPD and Work."
  - b. Fall 2010, "Asthma and Welding."
  - c. Winter 2010-2011, "Irritative Vocal Cord Dysfunction."

- d. Spring 2011, "Hypersensitivity Pneumonitis: Identifying the Causal Agent."
  - e. Summer 2011, "New Causes of Occupational Asthma Reported in 2010."
10. Banga A, **Reilly MJ, Rosenman KD**. A Study of the Characteristics of Michigan Workers with Work-Related Asthma from Exposure to Welding Fumes. *J Occup Environ Med* 2011; 53:415-419.
  11. Lutzker LA, Rafferty AP, Brunner WM, Walters JK, Wasilevich EA, PhD, Green MK, **Rosenman KD**. Prevalence of Work-Related Asthma in Michigan, Minnesota and Oregon. *Journal of Asthma* 2010; 47:156-161.
  12. **Rosenman KD**. Lung Disease in the Automotive Industry. In: *Environmental and Occupational Lung Disease*. Eds. Nemery B, Cullinan P, Tarlo S. West Sussex: Wiley –Blackwell. 2010; 211-222.
  13. The Work-Related Injury and Illness educational display booth was exhibited at:
    - a. University of MI Pulmonary and Critical Care Medicine Conference, Oct 1- 2, 2010.
    - b. MI Occupational & Environmental Medicine Assoc. 2010 Conference, Oct 1-2, 2010.
    - c. 2010 MI State Medical Society Annual Conference, Oct 20-22, 2010.
    - d. MI Safety Conference, April 19-20, 2010.
  14. Dr. Rosenman and Ms. Reilly attended the MI Asthma Initiative Key Partners meetings on Aug 19, 2010 and May 10, 2011.
  15. The Surveillance Center at MSU established accounts on Facebook (9 posts since September 2010) and Twitter (11 tweets since November 2010).

### Special projects

1. **Assess Trends in Use of Temporary Employees:** The State of Michigan lists 458 temporary employment agencies in Michigan, and in February 2011 (most recent statistic available) there were 94,900 individuals in Michigan listed in NAICS category 561320 Temporary Help Services. Online searches are being conducted to identify additional agencies; for example, Manta.com lists 1,478 agencies in Michigan, many of which overlap with the state's list, and some of which may be placement, not temporary, agencies. There are also two membership associations, the Michigan Association of Staffing Services (MASS) and the Western Michigan Technical Staffing Services Association. These associations are part of the national association the American Staffing Association (ASA). We plan to contact the associations to determine if there is a health and safety standard the agencies follow, and inform them of our plan to survey the individual temporary employment agencies. A cover letter and survey is being developed to collect information from each agency about: who assumes responsibility for health and safety training of their temporary employees prior to job assignment, reporting patterns when employees develop injuries or illnesses, insurance coverage, and how employees are reassigned if they become unable to work with certain substances/perform certain tasks. The letter and survey will be mailed in the summer of 2011. Follow-up telephone interviews will be attempted with non-respondents in the fall of 2011. Education and outreach materials will be developed as gaps in health and safety are identified through the survey. These materials will be shared with the temporary agency administrators as well as employee groups.
2. **Follow-back of Previous MIOSHA Work-Related Asthma Inspections:** There were 733 inspections at 627 different establishments from 1988 through 2009. The 627 establishments are currently being checked to determine if they are still in business at the same location. Once this task is completed, a random selection of 100 locations currently in business representing as many industry sectors as possible will be selected. These 100 establishments will receive a MIOSHA enforcement inspection, either with MIOSHA staff on site or through a D-letter type format (letter to company to address the issue on their own, along with requirement for company to call MSU staff to administer co-worker respiratory symptoms questionnaire on site). Comparison of original to most recent inspections will be conducted with special emphasis on co-worker symptoms, air monitoring results, violations or citations corrected, costs associated with any changes made and number of employees covered. Results of this follow-back project will be used in a future project to estimate the probability of reducing the number of WRA incident cases and the associated economic benefits of such reductions.

3. MIOSHA asked MSU to participate in a consultation at a mine machinery manufacturing company. Medical records were reviewed on 49 workers and 77 medical questionnaires were administered. Two to three new cases of isocyanate induced asthma are in the process of being confirmed. A sample medical screening protocol for workers exposed to occupational allergens was provided and assistance to the company was given to identify a health care facility to provide the services.
4. An EMT from a New Jersey ambulance company contacted MSU about developing work-related asthma from exposure to a disinfectant applied by a misting machine. This case was forwarded to the New Jersey health department. In addition, MSU identified ambulance companies in Michigan that use the same process and we have initiated onsite investigations.

## **PLANS FOR THE NEXT YEAR**

Specific activities of high priority for completion include:

- Evaluate work-related asthma in employees of temporary employment agencies.
- Follow-back of Previous MIOSHA Work-Related Asthma Inspections.

## **Annual Report of Accomplishments and Outcomes, July 2010 – June 2011 – *Acute Traumatic Work-Related Deaths***

Michigan State University/Michigan Dept of Community Health/Michigan Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance  
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Coordinator – Debra A. Chester, (517)432-1008 debra.chester@ht.msu.edu

The primary activities of the Michigan Acute Traumatic Work-Related Death program are:

- Conducting surveillance for acute traumatic work-related deaths,
- Identifying the root cause(s) of the death, and
- Conducting prevention activity through the development and dissemination of educational material.

## **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

### **Case Ascertainment**

There were 122 work-related fatality reports received, with 119 confirmed.

### **Investigations**

There were 12 MIFACE site visits performed. On-site investigations were not attempted for 62 cases; these involved homicides, suicides or transportation work-related fatalities, the date of the incident occurred several years prior to the date of death, or MIFACE was advised by MSU Extension that the farm family should not be contacted. Eight firms that have been contacted have requested MIFACE re-contact them at a later date or they will contact MIFACE when legal matters are resolved. MIFACE is in the process of contacting 28 firms/families.

### **Materials Development, Publications, Presentations and Other Outreach**

1. 2009 Annual Report on Acute Traumatic Work-Related Fatalities in Michigan. Summarizes the agents, occupations and industries of the confirmed, work-related asthma cases: available at [www.oem.msu.edu](http://www.oem.msu.edu).
2. A 2-page summary sheet was developed to highlight key elements of the Acute Traumatic Work-Related Death Surveillance Program in MI: Tracking Acute Work-Related Deaths in MI (April 12, 2011). (Available at [www.oem.msu.edu](http://www.oem.msu.edu).)
3. Worker Memorial Day Activities (April 28, 2011)
  - a. A Worker Memorial Day press release was prepared and distributed. MSU Press Release was highlighted in the print and Internet publications and during radio interviews by Dr. Rosenman.
  - b. Deb Chester was one of the three featured speakers at the State Worker Memorial Day Event in the State Capital Building, Lansing, MI
4. Twenty-two MIFACE Summaries of MIOSHA Investigations were prepared and distributed via the MSU OEM webpage and the MIFACE e-mail database. The Summaries are available at [www.oem.msu.edu](http://www.oem.msu.edu). The Summaries include a description of events involved in the death and the Michigan OSHA enforcement citations issued at the conclusion of the investigation. These Summaries were written in a manner to be used for educational purposes and have been used in training programs and “tailgate talks” on the worksite.

5. Three Hazard Alerts have been developed and posted to the MSU OEM website ([www.oem.msu.edu](http://www.oem.msu.edu))
  - a. Controlled Atmosphere Storage: *CA Storage: Respiration Halted for Fruit and People*
  - b. Backing Vehicle Safety: *Look for Mobile Equipment Blind Spots*
  - c. Overhead Power Lines: *Look Up for Overhead Power Lines*
6. One in-depth investigation report, MIFACE Investigation Report 08MI121: *Worker at a Fruit Storage Facility Died After Entering a Controlled Atmosphere Storage Room* has been posted to the MSU OEM website [www.oem.msu.edu](http://www.oem.msu.edu).
7. MIFACE written materials have been cited in several publications and used by organizations in their educational outreach materials:
  - a. MIFACE work-related fatality statistics were cited in the MIOSHA News, Vol. 14, No. 3 (Summer 2010)
  - b. MIFACE work-related fatality statistics were cited by the MIOSHA Consultation, Education and Training (CET) Division to educate prospective CET grantees about the Michigan industries and occupations with a high fatality rate to be used during their Request for Proposal response.
  - c. Michigan Soybean Office requesting statistics regarding fatal grain entrapments in Michigan,
  - d. Asphalt Pro Magazine's August/September 2010 Safety Spotlight: Instant Behind Haul Truck Spells Tragedy highlighted MIFACE Investigation Report 08MI040: Municipal Truck Driver Dies After Being Backed Over by Dump Truck;
  - e. Fruit Grower News, October 2010, Vol. 49, No. 10, pg. 13: Protect your employees with a CA storage safety plan,
  - f. Vegetable Growers News, December 2010, Vol. 44, No. 12, pg 28: Protect your employees with a CA storage safety plan; and
  - g. MIOSHA Consultation, Education and Training Fact Sheet: MIOSHA Inspection #308878636: General Industry Safety and Health Division, Yankee Springs Dairy Inc., Double Fatalities 07/12/10).
  - h. MIFACE notified that its paper, "Asthma death after spraying polyurethane truck bed liner", Debra A Chester, Elizabeth A Hanna, Barton G Pickelman, Kenneth D Rosenman; Am J Ind Med. 2005 Jul ;48 (1):78-84 was cited by two authors in March 2011.
    - i. "Chemical allergy: translating biology into hazard characterization." Ian Kimber, David A Basketter, G Frank Gerberick, Cindy A Ryan, Rebecca J Dearman; Toxicol Sci. 2011 Mar ;120 Suppl 1 :S238-68
    - ii. "Occupational asthma: review of assessment, treatment, and compensation." Clayton T Cowl; Chest. 2011 Mar ;139 (3):674-81
8. MIFACE materials were distributed at the following conferences:
  - a. MSU Ag Expo, July 20-22, 2010.
  - b. University of Michigan Pulmonary and Critical Care Medicine Conference, October 1-2, 2010.
  - c. MI Occupational & Environmental Medicine Association 2010 Conference, October 1-2, 2010.
  - d. 2010 Michigan State Medical Society Annual Conference, October 20-22, 2010.
  - e. Michigan Safety Conference, Lansing, MI, April 19-20, 2011
  - f. Worker Memorial Day, Lansing, MI, April 28, 2011
9. Agrofresh Crunch Clinic and MSU CA Storage Clinic, Grand Rapids, MI August 12, 2010:
10. GEAPS Joint Safety Session with GEAPS membership in Ontario Canada and western Ontario fire fighters. Blyth, Ontario. August 24, 2010
11. Michigan Water and Environment Association (MWEA) at Eagle Eye Conference Facility, Bath Michigan. November 2, 2010.
12. Presentation to farmers and agricultural support personnel at Jonesfield Township Hall, Merrill, Michigan, January 13, 2011
13. Grain Elevator and Processing Society (GEAPS), Dundee Michigan. January 25, 2011



14. 11<sup>th</sup> Annual Upper Michigan Safety Conference, Escanaba, Michigan. January 28, 2011.
15. Farm Emergency and Preparedness Health and Safety Seminars:
  - a. Hart United Methodist Church, Hart, MI, February 8, 2011
  - b. Williams Agricultural Machinery. Charlotte, MI, February 9, 2011
  - c. Southwest Horticultural Experiment Station. Benton Harbor, MI, March 2, 2011,
  - d. Voisinnet Farm Shop. Laingsburg, MI, March 5, 2011
  - e. Lake City EMS Building, Lake City, MI, March 8, 2011
  - f. NW MI Research Station. Traverse City, MI, March 9, 2011
  - g. Monroe Extension Office. Monroe, MI, March 10, 2011
  - h. Packert Farm Shop, Clare, MI, June 15, 2011
16. MWEA Lagoon Conference, Saginaw Valley University, Saginaw, Michigan. February 24, 2011.
17. Vehicle Backing Safety Webinar hosted by Citizen's Insurance, Howell, MI, March 15, 2011.
18. State of Michigan Interagency Migrant Services Committee (IMSC) meeting, Michigan Farm Bureau, Lansing, Michigan. May 3, 2011.
19. Menéndez CC, Castillo DN, **Rosenman KD**, Harrison RJ, Hendricks S. Evaluation of a Nationally Funded State-based Program to Reduce Fatal Occupational Injuries. (under review)

### **Special Projects**

1. **Collaboration with MSU Extension:** MIFACE conducted a site visit that involved a work-related death in a controlled atmosphere (CA) storage room holding apples. During the employer interview, the employer stated he had attended a MSU Extension training session regarding CA storage a few years ago but did not have a copy of the MSU Extension manual that was provided at the session. MIFACE contacted Extension to obtain a copy of the manual. The Health and Safety chapters were out of date and did not meet State health and safety standards. MIFACE updated the manual to reflect current standards and best practices. The updated manual was distributed at the most recent MSU Extension CA storage training session (August 12, 2011), posted on the MSU OEM website, distributed to MSU Extension agents and appropriate trade groups.
2. **Contact with the deceased's family members:** MIFACE has initiated contacting the families of the deceased via letter to inform them of a MIFACE investigation.

### **PLANS FOR THE NEXT YEAR**

Specific activities of high priority for completion include:

- Work with the Michigan Towing Association to initiate collaborative work to develop a sample health and safety program for that industry.
- Track residential builders and maintenance and alteration contractor compliance with new legislatively mandated safety training.

## **Annual Report of Accomplishments and Outcomes, July 2010 – June 2011 – *Pesticides illnesses and injuries***

Michigan State University/Michigan Dept of Community Health/Michigan Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance  
Principal Investigator – Kenneth Rosenman, MD (517)353-1846 Rosenman@msu.edu  
Coordinator – Abby Schwartz, MPH (517) 335-8338 schwartza@michigan.gov

The primary activities of the Michigan Pesticides illness and injury program are:

- Conducting surveillance for acute pesticide-related illness and injury.
- Conducting prevention activity through workplace investigations and the development and dissemination of educational materials.

### **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

#### **Case Ascertainment**

From July 1, 2010 through June 30, 2011, there were 78 work-related case reports received with 49 cases confirmed. There were 473 environmental pesticide reports received with 159 confirmed cases.

#### **Investigations**

Three investigations were completed. The Michigan Department of Agriculture (MDA) completed two; one resulted in a warning letter and in one no violations were found. Four cases were referred to MIOSHA in this time period. The Michigan OSHA completed one; the company was cited for two violations and received a \$150 penalty.

Six priority alerts were sent to NIOSH regarding cases with four or more exposed persons or because there were no violations on the pesticide label but the person became ill anyway.

#### **Materials Development, Publications, Presentations and Other Outreach**

1. Staff presented information about the surveillance program to about 30 Michigan State University extension and MDA Pesticide and Plant Pest Management staff in October 2010.
2. Staff attended the Conference for Michigan's Farm Worker, Service Providers, and Growers in November 2010. About 150 registered attendees were able to see program reports and other material at our display table.
3. Staff attended meetings of the Migrant Health Network at the Michigan Primary Care Association, to discuss pesticides and migrant worker exposures.
4. Over 550 letters were sent to migrant camp owners reminding them of the legal requirement to report any known or suspected pesticide poisonings.
5. The Pesticide booklet or other pesticide information was mailed to reported cases and employers as appropriate.
6. Michigan chaired the SENSOR-Pesticides coding committee and actively participated with other committee members in making revisions to the Standardized Variable Document and presented the information at the annual SENSOR-Pesticide Winterfest meeting. Michigan also chaired a committee that developed an annual report template for all states conducting pesticide surveillance to use.

7. The Pesticide Advisory Committee (PAC) for the MDA also serves as the advisory committee to the pesticide surveillance program. It met quarterly. A summary update of the pesticide surveillance system has been provided at each meeting. Ms. Schwartz was active on subcommittees as the PAC revised business rules this year to become a more effective advocate for the safe use of pesticides.

8. Staff participated on the MDCH Bed Bug Working Group to advise on pesticide related issues. MDCH has been awarded a bed bug education and outreach grant from the EPA.

9. Mehler L, **Schwartz A**, et al. Acute Antimicrobial Pesticide-Related Illnesses among Workers in Health-Care Facilities – California, Louisiana, Michigan, and Texas, 2002-2007. JAMA, 304(2): 152-154. (Reprinted from MMWR 59(18):551-6.)

10. Lee SJ, Mulay P, Diebolt-Brown B, Lackovic M, Mehler L, Beckman J, Waltz J, Prado JB, Mitchell Y, Higgins SA, **Schwartz A**, and Calvert GM. Acute Illnesses Associated with Exposure to Fipronil – Surveillance Data from 11 States in the United States, 2001–2007. Clin Toxicol 2010; 48:737–44.

11. Lee SJ, Mehler L, Beckman J, Diebolt-Brown B, Prado J, Lackovic M, Waltz J, Mulay P, **Schwartz A**, et al. Acute Pesticide Illnesses Associated with Off-Target Pesticide Drift from Agricultural Applications — 11 States, 1998–2006. Environ Health Perspect doi:10.1289/ehp.1002843

12. Calvert GM, Keralis JM, Kasner EJ, Mehler L, Beckman J, Bonnar-Prado J, Lee SJ, Diebolt-Brown B, Mulay P, Lackovic M, Waltz J, **Schwartz A**, et al. Gender Differences in Acute Pesticide Poisoning among Farmworkers in the United States, 1998-2006. (submitted)

13. The seventh annual pesticides surveillance report: Pesticide Illness and Injury Surveillance: 2009. Published December 2010. Available at:

[www.oem.msu.edu/userfiles/file/Annual%20Reports/Pesticide/Pesticide%20Annual%20report%202009.pdf](http://www.oem.msu.edu/userfiles/file/Annual%20Reports/Pesticide/Pesticide%20Annual%20report%202009.pdf)

## PLANS FOR THE NEXT YEAR

Specific activities of high priority for completion include:

- Developing a page on the website to address issues of disinfectants and human health.
- Expanding the use of Twitter and Facebook as tools to promote occupational safety and health in Michigan, to include using the MDCH feeds to its sites, and exploring social media strategies to “drive” the public to the MDCH pesticides information website and the MSU occupational health websites.
- Implementation of recommendations in Michigan’s Work-related health disparities report relevant to pesticide exposed groups.

## **Annual Report of Accomplishments and Outcomes, July 2010 – June 2011 – *Silicosis and Other Work-Related Lung Diseases***

Michigan State University/Michigan Dept of Community Health/Michigan Dept of Licensing and Regulatory Affairs, Enhanced Program in Occupational Injury and Illness Surveillance  
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The primary activities of the MI Silicosis and Other Work-Related Lung Diseases program are:

- Conducting surveillance for silicosis and initiate surveillance for other work-related lung disease, including asbestosis, work-related hypersensitivity pneumonitis, hard metal lung disease, the minor pneumoconioses, and other emerging work-related lung diseases.
- Conducting prevention activity through workplace investigations and the development and dissemination of educational material.

## **MAJOR ACCOMPLISHMENTS AND OUTPUTS**

### **Case Ascertainment**

There were 1,437 reports received and confirmed as: 7 Silicosis; 0 Coal Workers' Pneumoconiosis; 1 Hard Metal Lung Disease; 2 Pneumoconiosis, Unspecified; 849 Asbestosis; 460 Hypersensitivity Pneumonitis; 114 Other Lung Diseases (includes chemical pneumonitis, chemical irritation, irritative bronchitis, other pneumoconioses, smoke inhalation, silo-related lung disease).

### **Investigations**

There were 4 Michigan OSHA inspections completed. The type of facilities inspected and the exposures were: wood treatment factory with arsenic and chromium exposure; tool and die shop with cobalt and metal working fluid exposure; plastic injection molding factory with exposures in manifold department and during clean up procedures; concrete and redi-mix manufacturing with silica exposure.

### **Materials Development, Publications, Presentations and Other Outreach**

1. 2009 Annual Report on Silicosis in Michigan. Summarizes the agents, occupations and industries of the confirmed silicosis cases: [www.oem.msu.edu](http://www.oem.msu.edu)
2. 2009 Annual Summary of Occupational Disease Reports to the Michigan Department of Energy, Labor and Economic Growth. Summarizes the demographics, industries and other descriptive collected as part of the State's surveillance system for occupational diseases: [www.oem.msu.edu](http://www.oem.msu.edu).
3. Occupational/Environmental Lung Diseases Update. 13th Annual Clinical Chest Conference. Wm. Beaumont Hospital, Royal Oak, September 15, 2010.
4. Update on Occupational Disease Surveillance in Michigan. 2010 Michigan Occupational and Environmental Medicine Association Conference, Port Huron, October 1, 2010.
5. Kidney Disease and Silicosis. Annual Silicosis Meeting, Oakland, CA, March 24, 2011.
6. Foundry Follow-Up. Annual Silicosis Meeting, Oakland, CA, March 24, 2011.
7. A 2-page summary sheet was developed to highlight key elements of the Silicosis and Other Work-Related Lung Disease Surveillance Program in MI: Tracking Work-Related Lung Diseases in MI (October 15, 2010).
8. The following issues of *P.S. News* were written and distributed to approximately 3,000 health

professionals (available at [www.oem.msu.edu](http://www.oem.msu.edu)):

- a. Summer 2010, "COPD and Work."
  - b. Fall 2010, "Asthma and Welding."
  - c. Winter 2010-2011, "Irritative Vocal Cord Dysfunction."
  - d. Spring 2011, "Hypersensitivity Pneumonitis: Identifying the Causal Agent."
  - e. Summer 2011, "New Causes of Occupational Asthma Reported in 2010."
9. **Rosenman KD.** Lung Disease in the Automotive Industry. In: Environmental and Occupational Lung Disease. Eds. Nemery B Cullinan P Tarlo S. West Sussex: Wiley–Blackwell. 2010;211-22.
  10. Makol A, Reilly MJ, **Rosenman KD.** Prevalence of Connective Tissue Disease in Silicosis. Am J Ind Med 2011; 54:255-262.
  11. **Rosenman KD,** Reilly MJ, Gardiner J. Results of Spirometry among Individuals in a Silicosis Registry. J Occup Environ Med 2010; 52:1173-1178.
  12. **Rosenman KD.** Rheumatoid Arthritis and Pneumoconiosis (Letter). Am J Resp Crit Care Med 2011 (in press).
  13. **Rosenman KD.** Talc. Patty's Toxicology, 6<sup>th</sup> Edition, eds. Bingham E and Cohrssen B. Hoboken, New Jersey: John Wiley and Sons 2011 (in press).
  14. The Work-Related Injury and Illness educational display booth was exhibited at:
    - a. University of MI Pulmonary and Critical Care Medicine Conference, Oct 1- 2, 2010.
    - b. MI Occupational & Environmental Medicine Assoc. 2010 Conference, Oct 1-2, 2010.
    - c. 2010 MI State Medical Society Annual Conference, Oct 20-22, 2010.
    - d. MI Safety Conference, April 19-20, 2010.
  15. The Surveillance Center at MSU established accounts on Facebook (9 posts since September 2010) and Twitter (11 tweets since November 2010).

## Special projects

1. **Foundry Re-Inspection Project:** We inspected 45 Michigan foundries. Personal air monitoring for silica was conducted in 41 of the 45 facilities; 15 (36.6%) companies were above the MIOSHA Permissible Exposure Limit (PEL) and 23 (56.1%) were above the NIOSH Recommended Exposure Limit (REL). Thirteen of the 14 inspections at foundries where a SENSOR case had previously been identified performed air sampling; six (46.2%) had silica levels above the PEL and 10 (76.9%) facilities had silica samples above the REL. Twenty-eight of the 31 inspections with silica air monitoring where no silicosis index case was associated found nine (32.1%) facilities had silica levels above the PEL and 13 (46.4%) were above the REL. Plans are to send educational materials to these inspected foundries on silica hazards by August 2011.
2. **Identifying Mines in Michigan with Silica Exposure:** We identified 450 active mines in MI, using the Mine Safety & Health Administration's on-line look up database. Of those, 102 mines had at least 1 silica measurement of >1% respirable quartz from 1-1-2008 through 2-22-2011.

The next step is to send a letter to the 102 mines, mid-summer of 2011. The letter will offer to review any mine employees' chest radiographs, if they have 20 or more years of employment with the mines. On a limited basis we will offer to review chest radiographs of employees with 10-20 years mining employment. The chest radiograph evaluation by a specialist in dust diseases of the lung will be of any radiograph already performed; we will not offer to pay for new chest radiographs. An overall summary of the findings will be completed and shared with all mines (no identifying information will be included in the summary).

3. **Project to Resurvey Abrasive Blasting Companies in Michigan.** In 1996 and 2005, Michigan companies that performed abrasive blasting were identified and surveyed about their use of silica and other abrasive blasting media. In addition to the survey, in 1996 some of these companies were inspected by surveillance staff and classes were developed to train abrasive blasters about the hazards of the job and safe work practices. In 1996 a training manual was developed titled: Abrasive Blasting Preventing Silicosis. This manual was updated in 2007.

We plan to resurvey the abrasive blasting companies in June-August 2011 and again in calendar year 2015. On-line searches of the 262 companies in business during the 2005 survey have been completed to verify the companies are still in business and update any mailing or telephone information. In addition, on-line searches for any new abrasive blasting companies since 2005 were conducted. A new list has been compiled of 406 companies that potentially perform abrasive blasting with silica. A cover letter, one-page survey and postage-paid return envelope will be mailed to these companies in June-July 2011. Any companies that do not respond to the survey will be called to complete the survey by telephone. Survey results will be compiled and analyzed in September 2011. Educational materials will be mailed to companies that use silica. One new consideration this round of surveys is to offer a free B Reading of any abrasive blaster who has a chest radiograph.

## **PLANS FOR THE NEXT YEAR**

Specific activities of high priority for completion include:

- Evaluate outreach to MI mine owners.
- Evaluate use of silica and other abrasives in the MI abrasive blasting industry.
- Identify emerging work-related lung diseases other than asthma and silicosis.